NIH renews asthma research commitment for World Asthma Day

On World Asthma Day 2015, the National Institutes of Health (NIH) stood with the international community to renew their commitment to advance the understanding of asthma and develop effective strategies to manage and prevent the disease. Within a broad asthma research portfolio, NIH-supported scientists are making progress in understanding how certain exposures, such as microbes, allergens, and pollution, may contribute to the development or worsening of asthma, and they are working on new approaches to address these factors.

An estimated 300 million people worldwide are living with asthma, which is a chronic disease that inflames and narrows the airways of the lungs, causing wheezing, breathlessness, chest tightness, and coughing. Globally, an estimated 15 million years of life are lost each year due to asthma-related disability or early death. Asthma is a leading cause of hospitalization and missed school and workdays in the United States, and managing the condition can be costly for families and health care systems.

The National Institute of Allergy and Infectious Diseases; the National Heart, Lung, and Blood Institute; and NIEHS are the lead NIH institutes that support and conduct asthma research. Among many other asthma-related projects, scientists supported by these institutes are working to advance knowledge of how exposures affect asthma development and severity. These studies underpin NIH efforts to reduce the worldwide burden of asthma and improve the quality of life for people with this chronic disease.

Research at NIEHS

NIEHS research focuses on how the environment contributes to diseases such as asthma. Research has shown that environmental exposures, such as parental smoking, can play an important role in the initiation and severity of asthma, particularly in children. Recent work at NIEHS suggests that maternal smoking during pregnancy may have transgenerational effects on asthma development.

Studying indoor and outdoor exposures, as well as genetics, helps researchers develop cost-effective interventions and novel treatments for asthma. In 2015, the NIEHS Clinical Research Unit began recruiting patients for the Natural History of Asthma with Longitudinal Environmental Sampling study (NHALES).

NHALES will help scientists understand how the environment affects asthma symptoms. In particular, NIEHS scientists will examine how bacteria living in and on humans and in their homes, known collectively as the microbiome, may be associated with asthma activity. This five-year study will provide free treatment, medications, and compensation so participants can get their asthma under control (see story).

(Based on the NIH press release for World Asthma Day)

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